

## Viscosity



Viscosity is a technical term used to indicate a liquids thickness. Having the correct viscosity of paint is important to ensure the paint atomizes correctly and sprays well giving you a good quality finish. If your material is thin like water then the viscosity is said to be low, while if thick like latex interior paint then viscosity is said to be high. Viscosity is measured in seconds.

When spraying direct from the can you may need to dilute by up to 10% if your coating is very thick e.g. exterior latex.

When spraying latex from the quart cup all latex based coatings will need at least 10% dilution. Other coatings such as lacquers, urethanes generally don't but you should always check your paint viscosity with the viscosity cup before you start to add any thinning material.

You should always test the viscosity (or thickness) of paint before spraying to see if thinning is required. The correct viscosity is important to ensure the paint atomizes correctly and sprays evenly.

Your Earlex Spray Station comes equipped with a viscosity cup, which will help you determine the thickness of the paint. To test a liquids viscosity, dip the viscosity cup into the material and fill up to the top, lift free and time how long it takes for the paint to empty the viscosity cup - stop when the continuous flow ends from the bottom of the cup. The time determines the material viscosity and the need for the paint to be thinned before being sprayed.

**When using the quart container, the Earlex Spray Station Gemini has a viscosity rating of 180 seconds.** If the paint has emptied the viscosity cup in less than 180 seconds then you will not need to thin your paint or material. If it is above this then thinning will be required. (see thinning section).

## Thinning



Paint is "thinned" by adding the substance upon which the paint is based. If it is water-based paint then water is added; if oil based then mineral spirit or manufacturer's recommended thinner is added. If the paint requires thinning, start with a approximately 10% dilution of the paint. To do this, fill the quart cup up to the 32 fl oz graduation on the side and add one viscosity cup of thinner - approx 3 fl oz. The viscosity cup supplied with the unit holds 1/10 of a quart. Block the hole in the viscosity cup with your finger and fill up with the required thinner. Add the thinner to the paint and stir with the paint stirrer provided, and re-measure the viscosity. If the paint requires additional thinning, repeat this step by adding 5% (5% will be equal to half a viscosity cup) with the required thinner until desired viscosity is achieved.

If mixing larger batches of paint, for instance a gallon, then add four viscosity cups of appropriate thinner which is approximately 10% of a gallon. If further thinning is required repeat by adding two viscosity cups (approx 5% of a gallon) until desired viscosity is achieved. We would also recommend you follow the paint/coating manufacturer's guide for thinning in conjunction with a spray gun. If in doubt please contact the manufacturers of the paint.

**Tip:** When spraying direct from the can, although you do not necessarily need to thin interior latex paints, adding a viscosity cup of water (3 fl oz) to every gallon of latex and stirring thoroughly will improve the coverage and surface finish.

**Always stir your paint with the paint stirrer supplied for approx. 2min.**



## Getting to know your Spray Gun



**We recommend you spend some time practicing on cardboard, newspaper or scrap wood to familiarize yourself with how the spray gun works and the flow rate (i.e. how fast the material will spray ) before starting any work regardless of experience level.**

Start with the paint flow adjuster (8) at its minimum setting so the trigger cannot be pulled. Do not forget that the paint flow adjuster controls the quantity of paint sprayed. The spray gun will allow you to have great control for the spraying (Fig.5).

The gun has 3 spray patterns which can be changed by the external spray direction plate from either a horizontal fan pattern, to a round detailed pattern to a vertical fan pattern. When adjusting through patterns you will notice the oval fan pattern width reduce and increase as it moves from horizontal to vertical positions. This is useful when you have particular size items you need to spray. The maximum width you can spray is 8" down to 1" on the round pattern.

**Horizontal oval fan pattern**



— is ideal for spraying up and down and for edges left to right (Fig.3).

**Vertical oval fan pattern**



— is ideal for spraying left to right and for edges top to bottom (Fig.3).

**Round Spray**



— is ideal for detailed areas or small objects (Fig.3).

Spraying with your Earlex Spray Station Gemini is very intuitive and through a little practice you will very quickly become a good sprayer. When practicing – adjust the paint flow adjuster (8), and spray patterns to see the effect this has (Fig.4).

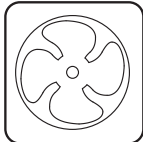
- 1) To achieve a horizontal pattern adjust to the horizontal position then pull the trigger and move your arm up and down (Fig.4).
- 2) When you get to the end of the line, release the trigger, re-position your arm for the return line before continuing to spray whilst overlapping the last pattern you have sprayed (Fig.4).
- 3) Next, to achieve a vertical pattern adjust the spray direction plate (4) to the vertical position then pull the trigger and move your arm up and down over the horizontal strips you have just sprayed slightly overlapping the last strip (Fig.4).

**HINT:** HVLP technology produces warm air through the air cap allowing the paint to dry quicker which can enhance the final effect and allow you to apply additional coats if necessary much sooner although you should follow the paint manufacturer's recommended drying/curing times where possible.

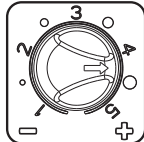
## Switch functionality



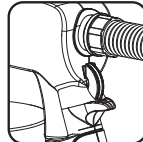
Pump



Turbine



Paint speed dial



Paint flow adjuster



HORIZONTAL



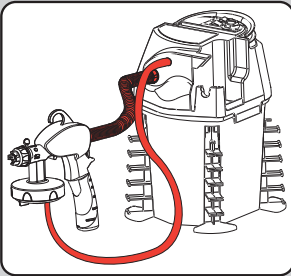
ROUND



VERTICAL

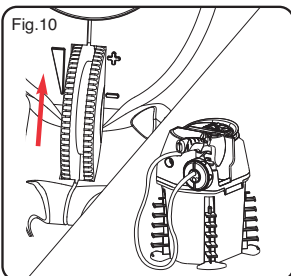
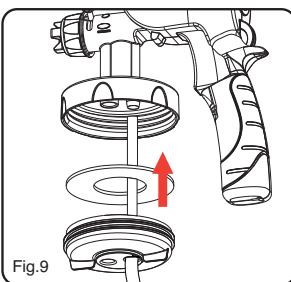
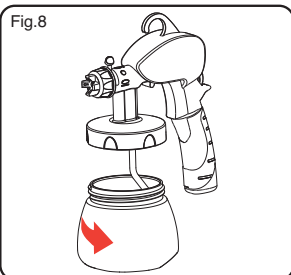
**IMPORTANT:** Correct cleaning of this sprayer is essential for successful operation on next use. Please refer to the How to DVD and the cleaning section of your operational manual on how to properly clean your sprayer.

The Gemini can be set up for **two different types** of applications, spraying directly from the can for large projects and also from the quart cup for small projects.



### Large Projects

Direct from the paint can (or Gemini bucket)  
(water-based coatings only)



## Product - Set up & Assembly

Additional items required before you start: • Drill • Cloth



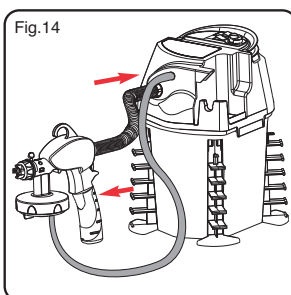
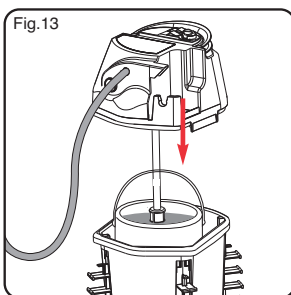
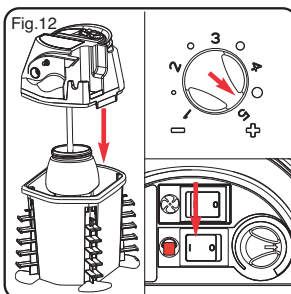
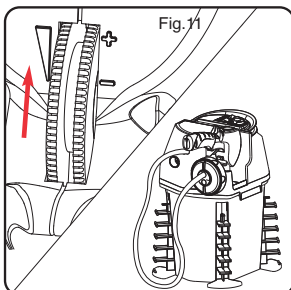
### Spraying direct from the can:




- 1) The head unit is secured with two container catches. Gently pull outwards on these to dislodge the catches, and remove the head unit.
- 2) Unscrew the paint container (Fig.8) and remove the rigid suction tube from the gun (Fig.8) and then insert the bare end of the 13ft paint tube through the connecting plate and fit it over the inlet (this is the one with the smaller aperture on underside of the gun) (Fig.9).  
**Tip:** Tube can be softened by running under hot water.
- 3) Ensuring that it is correctly aligned, screw the adapter onto the gun - pushing as you twist.
- 4) Fit the the 13ft paint tube to the paint outlet (Fig.10) on the motor unit - using the quick connect fitting. Give a gentle tug on the paint tube to ensure that it is secure.
- 5) Set the paint flow adjuster on gun to maximum by scrolling up (Fig.10) and then firmly push/ clip the gun into the docking station on the motor unit until you hear a 'click' (the trigger should be depressed sitting in the docking station).
- 6) DO NOT FIT the air hose to motor outlet and gun at this stage yet.

## Priming – Direct from the paint can (or Gemini bucket)





**SOLVENT BASED COATINGS CANNOT BE USED WHEN SPRAYING DIRECT FROM THE CAN.**  
 ALWAYS PRIME THE UNIT WITH WATER BEFORE STARTING ANY JOB. ENSURE YOUR PAINT IS AT ROOM TEMPERATURE. ALWAYS DILUTE USING WARM WATER.



- 1) If the spray gun is not in the docking station, adjust the paint flow adjuster on the back of the gun and roll it up to its max position – then place the gun in the docking station (Fig.11).
  - 2) Remove the head unit and place the quart container filled with water into the Gemini paint bucket and re-fit the head unit making sure the suction tube is fully immersed in the water (Fig.12).
  - 3) Plug the unit in, set paint speed dial on the unit to 5 (Fig.12), and turn the pump on (Fig.12). 
  - 4) When water starts coming out the front of the gun (you will see this in the docking station while it is on) - turn the pump off  remove the quart container and gun from the docking station - switch the pump on  and expel the remaining water through the gun into the quart cup.
- Tip:** If the water does not reach the end of the gun, make sure the flow adjuster is rolled up to maximum and the gun trigger is depressed fully in the docking station.
- 5) Remove the paint container from the Gemini paint bucket and replace it with the paint mixed and thinned (if necessary) making sure the pick-up tube drops into the paint (paint can either be poured directly into the bucket or preferably you can use the paint tin that it comes in).

- 6) Ensure the paint can is placed under the gun – use the rings on the base of the Gemini paint bucket as a guide.

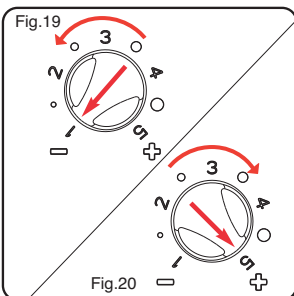
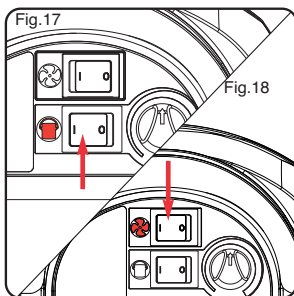
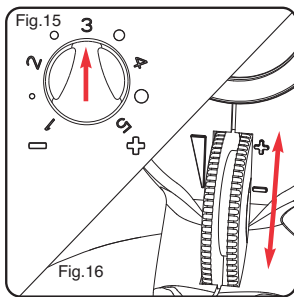
**NOTE:** Make sure the spray gun is firmly placed in the docking station, with the trigger depressed.



- 7) Turn pump on (Fig.12). 
- 8) When the paint starts to comes through the tip of the gun your unit is primed (this should take up to 2min). Turn pump off. 
- 9) Uncoil the black air hose from around the bucket, now fit the black air hose to the head unit and gun using a TWIST motion.
- 10) Join the 13ft paint tube and black air hose using the clips supplied. Do this at 3ft intervals, using a tweezer action on the clip, connect the paint tube first. A good tip is that the first clip should be placed 19inches from the head of the unit. It is also easier to do this with the gun out of the docking station.

Your Gemini is now ready to spray!

# Starting to Spray - Direct from the can (or Gemini bucket)

(Water-based coatings only)



- Before starting your project, practice spraying onto waste cardboard – this will ensure that you get some practice and allow you to set the Gemini to the right setting. The flow rate will vary dependant on what you are spraying.
  - If your spray pattern (pass) is diminishing as you spray - then increase the paint speed dial on the unit (Fig.20) setting.
  - To prevent clogging of the needle, tip and air cap at the front of the gun use a clean cloth to wipe clean at regular intervals.
  - To improve atomization/ quality of finish decrease the paint flow adjuster on the gun.
1. On the head unit set paint speed dial on the gun (Fig.15) to setting 3.
  2. Remove the gun from the docking station and set paint flow adjuster on the spray gun to lowest setting.
  3. Turn the Pump (Fig.17)  on and then the Turbine (Fig.18)  on.
  4. Gradually open paint flow adjuster a little at a time until you are comfortable with the amount of paint that is spraying from the spray gun (Fig.16).
  5. You can fine tune the spray output with the paint flow adjuster on the gun - ¼ to ¾ turn produces the best spray quality and improves atomization/ quality of finish (Fig.16).
  6. If the spray is too heavy, turn the paint speed dial on the unit anti-clockwise towards minimum on the head unit (Fig.19).
  7. If the spray is too light, turn the paint speed dial on the unit clockwise towards maximum on the head unit (Fig.20).
  8. You are now ready to start your project using standard HVLP spraying technique (see technique section).

## Top Tips

- Evenly control the speed of movement of the spray gun. A fast speed will give a light coat and a slow speed will give a heavy coat.
- Avoid stopping and starting when spraying a surface as this can lead to too much or not enough material on a surface.
- To ensure edges are covered, commence spraying just to the side or above/below the area being sprayed.
- Do not spray outside when humidity is above 60% or temperature is above 90°F (32°C) or below 45°F (7°C).

## Finishing Tips

**Orange Peel:** Reduce viscosity. Increase atomization with a smaller fluid tip (5). Spray area may be too cold.

**Sags or Runs:** Move spray gun faster. Spray lighter coat. Increase atomization.

**Wet and Milky:** Finish applied too heavy. This condition is prone to trap water within coats. Apply lighter coat.

**Blushing:** Seal coat applied over solvent-based stain that has not been completely dried.

**Rough Surface:** Seal coat not sanded enough. Sand smooth and re-coat.

**Fish Eyes:** Surface is contaminated. Clean surface, sand area and re-coat.

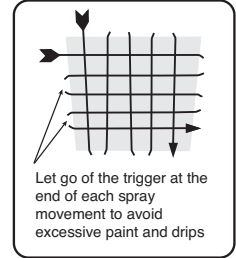
## Technique (recommend viewing of DVD)



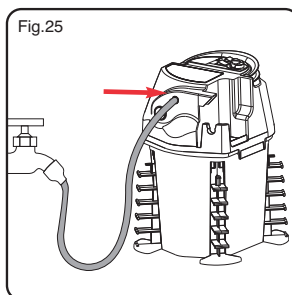
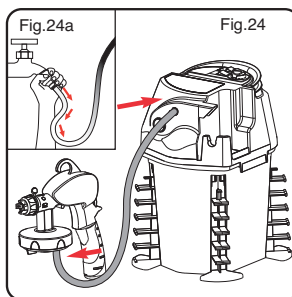
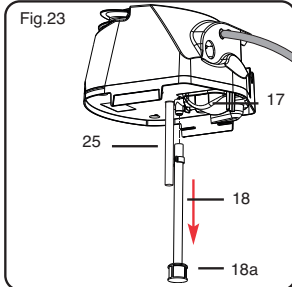
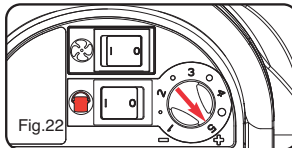
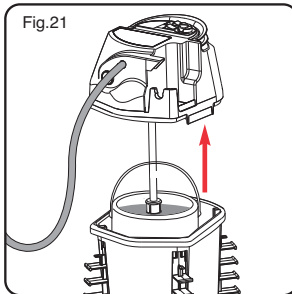
When spraying always keep your spray gun at the same distance from the surface, avoid moving your wrist as this will give you an uneven paint distribution. You should spray a maximum distance of 10"-12" from a surface, this will give you your maximum spray width (Fig.6).

**BE CAREFUL NOT TO APPLY TOO MUCH PAINT IN THE SAME AREA AS THIS WILL LEAD TO SAGS AND DRIPS – APPLYING LIGHT COATS IS ALWAYS BETTER UNTIL YOU GAIN CONFIDENCE AS YOU CAN ALWAYS GO BACK OVER WHAT YOU HAVE SPRAYED.**

The most commonly used technique for painting a large surface is the 'cross-hatching' technique, i.e. you spray the paint in a horizontal strip and then cross over these strips by spraying the paint in vertical strips.



## Cleaning Instructions - Direct from the paint can (or Gemini bucket)



**IMPORTANT:** Correct cleaning of this sprayer is essential for successful operation on next use. Please refer to the How to DVD and the cleaning section of your operational manual on how to properly clean your sprayer.

1. Separate the air hose from system entirely. Remove head unit and set on top of separate waste bucket filled with approximately 1 gallon of warm soapy water (Fig.21). Turn pump on to #5 (Fig.22). Pointing the gun into paint container, pull trigger and carefully expel remaining paint into paint container for use later. Let go of the trigger before water comes out of the gun. With the pump still on, set the pump dial to #2 and allow the unit to circulate the warm soapy water inside the unit for 30 seconds. Turn off the pump

2. Tilt the head unit on the bucket and remove the paint pickup tube (Fig.23). Clean the pick up tube #18 thoroughly using the bottle brush. Also remove filter cage #18a and clean thoroughly. Re-assemble but do not reconnect to the head unit.

3. Release the pressure in the paint tube by pulling the trigger into a waste bucket and then disconnect the paint tube from head unit and the gun (Fig.24). Clean the gun and paint tube at the faucet. Remove needle for best cleaning. Use the faucet connector (Fig.24 a) provided to clean the paint tube thoroughly. Ensure if using the faucet connector that you hold the connector onto the faucet and gradually increase the water flow.

**DO NOT use ties or jubilee clips to retain the adapter. Over pressuring the unit can cause failure.**

**Tip:** Warm water works better.

4. **UNPLUG THE SPRAYER FROM ELECTRICAL OUTLET.** With the head unit positioned on the waste bucket take the end of the paint tube that is not connected to the faucet and reconnect it to the head unit. Set the pump dial to #1. **HOLD THE FAUCET CONNECTOR SECURELY** onto faucet and be careful as there will be some backpressure until the paint washes out, the faucet connector may pop off. **VERY SLOWLY OPEN THE FAUCET TO A TRICKLE** (no more than a trickle) and force the water backwards up the tube (Fig.25). Back flush the head unit until no more paint exits the short overflow tube on the underside of the head. Turn off the water.